

1. Determine whether the rock described is igneous (I), sedimentary (S) or metamorphic (M)? (4)
- Rocks found along the shores of James Bay contain fossils as a result of the accumulation S and compaction of layers of sand
  - Slate is formed from sedimentary rock that has been subjected to heavy pressure. M
  - Granite results from the cooling of a magma bubble slowly moving to the earth's surface. I
  - Obsidian is a type of volcanic glass formed during an eruption. I

2. Consider a clear high quality diamond. Diamonds are very hard and made of pure carbon. (4)

Circle the properties that apply.

- Is the diamond a rock or a mineral? Rock / Mineral
- Describe its colour. Idiochromatic / Allochromatic
- Describe its transparency. Transparent / Translucent / Opaque
- Its Mohs scale value. High value / Low value

We have considered three energy resources from the lithosphere, namely; **fossil fuels, uranium, geothermal.**

(8)

- Which are non-renewable? fossil fuel Uranium
- Which creates a large amount of greenhouse gases? fossil fuel
- Name or give the chemical formula for two greenhouse gases. CO<sub>2</sub> CH<sub>4</sub> SO<sub>x</sub> NO<sub>x</sub>
- Provide one disadvantage to each energy resource listed below:

Energy Resource	Disadvantage
Fossil Fuel	<u>GHG non-renewable</u>
Nuclear	<u>non-renewable / radioactive waste</u>
Geothermal	<u>expensive</u>

Multiple choice

(4)

- Which mineral is extracted from the lithosphere to produce nuclear energy?  
A) Iron      B) Pyrite      C) Coal      D) Uranium
- What are the three components of fossil fuels?  
A) oil, natural gas and coal      C) natural gas, oil and water  
B) natural gas, water, plastics      D) coal, oil and water
- Which of the following are properties of **rocks**? They:  
A) Are composed of more than two types of minerals.      C) Have the same properties throughout.  
B) Have a unique chemical composition.      D) Have an ordered atomic structure.
- The proper term for the extracted material from the ground whose concentration of a mineral is high enough for mining is:  
A) Rock      B) Deposit      C) Ore      D) Natural deposit

1. Determine whether the rock described is igneous (I), sedimentary (S) or metamorphic (M)? (4)
- Slate is formed from sedimentary rock that has been subjected to heavy pressure. M
  - Granite results from the cooling of a magma bubble slowly moving to the earth's surface. I
  - Obsidian is a type of volcanic glass formed during an eruption. I
  - Rocks found along the shores of James Bay contain fossils as a result of the accumulation and compaction of layers of sand. S

2. Consider a clear high quality diamond. Diamonds are very hard and made of pure carbon. (4)  
Circle the properties that apply.

- Is the diamond a rock or a mineral? Rock / Mineral
- Describe its colour. Idiochromatic / Allochromatic
- Describe its transparency. Transparent / Translucent / Opaque
- Its Mohs scale value. High value / Low value

We have considered three energy resources from the lithosphere, namely; **fossil fuels, uranium, geothermal.**

(8)

- Which are non-renewable? fossil fuels Uranium
- Which creates a large amount of greenhouse gases? fossil fuel
- Name or give the chemical formula for two greenhouse gases. CO<sub>2</sub> CH<sub>4</sub> SO<sub>x</sub> NO<sub>x</sub>
- Provide one disadvantage to each energy resource listed below:

Energy Resource	Disadvantage
Fossil Fuel	<u>GHG non-renewable</u>
Nuclear	<u>non-renewable / radioactive waste</u>
Geothermal	<u>expensive</u>

Multiple choice

(4)

- What are the three components of fossil fuels?
  - A) oil, natural gas and coal
  - natural gas, water, plastics
  - natural gas, oil and water
  - coal, oil and water
- Which of the following are properties of **rocks**? They:
  - A) Are composed of more than two types of minerals.
  - Have a unique chemical composition.
  - Have the same properties throughout.
  - Have an ordered atomic structure.
- The proper term for the extracted material from the ground whose concentration of a mineral is high enough for mining is:
  - Rock
  - Deposit
  - C) Ore
  - Natural deposit
- Which mineral is extracted from the lithosphere to produce nuclear energy?
  - Iron
  - Pyrite
  - Coal
  - D) Uranium